EXHIBIT A

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Leveraging JANUS for Single Sign-on with Notes DOMINO

February, 2003

ibtechnology

Goal

Provide Single Sign-on

between

web assets protected by JANUS and

web assets served by Notes DOMINO server

JPMorganChase

What will it provide, and not provide

- Will allow Domino servers with JANUS plug-in to service requests which have been validated by non-Domino JANUS servers
- It will not : alter the manner in which users are managed in Domino servers, including their creation, deletion, and profile modification
- It will not : alter the manner in which Domino Servers manage entitlements (in terms who can perform which function on what resource or document)
- It will not : provide users with the ability to access resources protected by JANUS using the credentials of a standard Domino server.

JPMorganChase

What will be the FAQ ?

- If a new user is added through CRD, will his or her profile be automatically created in Notes ? : *NO. The user lists, their entitlements, and their other profile data will not be integrated.*
- If a user first logs into a standard Domino server and then accesses MorganMarkets, will the user have to log in again : *YES*
- If a user first logs into MorganMarkets and then accesses a standard Domino server, will the user have to log in again : *YES*
- If a user first logs into a Domino server protected by JANUS and then accesses MorganMarkets, will the user have to log in again : *NO*
- If a user first logs into MorganMarkets and then accesses a Domino server protected by JANUS, will the user have to log in again : *NO*
- If a user's profile/entitlement is modified in CRD, will his or her profile be automatically altered in Notes ? : *NO. The user lists, their entitlements, and their other profile data will not be integrated.*
- Will users be able to use the standard Domino Server loginID and password when accessing a Domino Server protected by JANUS directly : *YES. If the JANUS plug-in does not detect valid JANUS credentials, it will trigger the standard Domino authentication mechanism if one has been activated. It is only when JANUS detects a valid request does it circumvent the standard Domino authentication mechanism*

JPMorganChase

Relevant components of Janus on Solaris

The components described below are currently available in Solaris using 'C'

- **Apache plug-in : mod_janus**

  It ensure that the requests passing through the Apache web server bear the Janus credentials and the request are for an authorized resource.

- **EntitelementServer**

  It provide the mod_janus plugin with :

  a] the key which mod_janus plug-in uses to verify if the requests it intercepts indeed bear valid Janus credentials, and

  b] the entitlement data

Proposal for Domino on NT

Use Apache ReverseProxy in conjunction with a DSAPI plug-in

Build a fairly standard Domino plug-in using DSAPI on NT to :

a] use the data that JANUS populates in the request header to obtain the "Common Name" of the user

b] populate the relevant Domino structures in header with the "Common Name" , and

c] pass on the request to Domino for further processing.

Steps :

- Currently, JANUS does not populate the header with the "Common Name" of relevant users. The JANUS team will need to enhance the relevant components to ensure that this information is contained in the header.
- Build JANUS using DSAPI and C on NT
- As a temporary measure (and at the cost of performance), build some code in the ReverseProxy to populate the headers with "Common Name" until such time as the JANUS enhancements are in place.

Key participants :

- BIRM (to approve the approach)
- JANUS team (to enhance JANUS)
- Lotus Notes group (may build, but definitely to test and approve the installation of the JANIS plug-in)
- CPG AD (to probably build the plug-in, but also to install the ReverseProxy)

JPMorganChase

Plan

Phase 1

- Build
  - JANUS-compatible Domino server plug-in
  - JANUS reverse proxy
  - Temporary common-name reference data filter (linkage between Notes and putAccess)
- Integration Testing
  - Load / Performance
  - Regression
- Deployment
  - Complete BIRM acceptance of the proposal
  - Production release – Domino plug-in & reverse proxy (CPG website only)
- Deliverable:
  - SSO between putAccess and CPG website Notes repositories

Phase 2

- Build
  - Enhance JANUS to incorporate common-name reference data in the defined header
- Integration Testing
  - Load / Performance
  - Regression
- Deployment
  - Decommission temporary common-name reference data and migrate to upgraded JANUS plug-in
- Deliverable:
  - SSO deployable to other (non-CPG website) Domino repositories
  - Documentation / Run book / Deployment guide

JPMorganChase

The Domino-NT plug-in

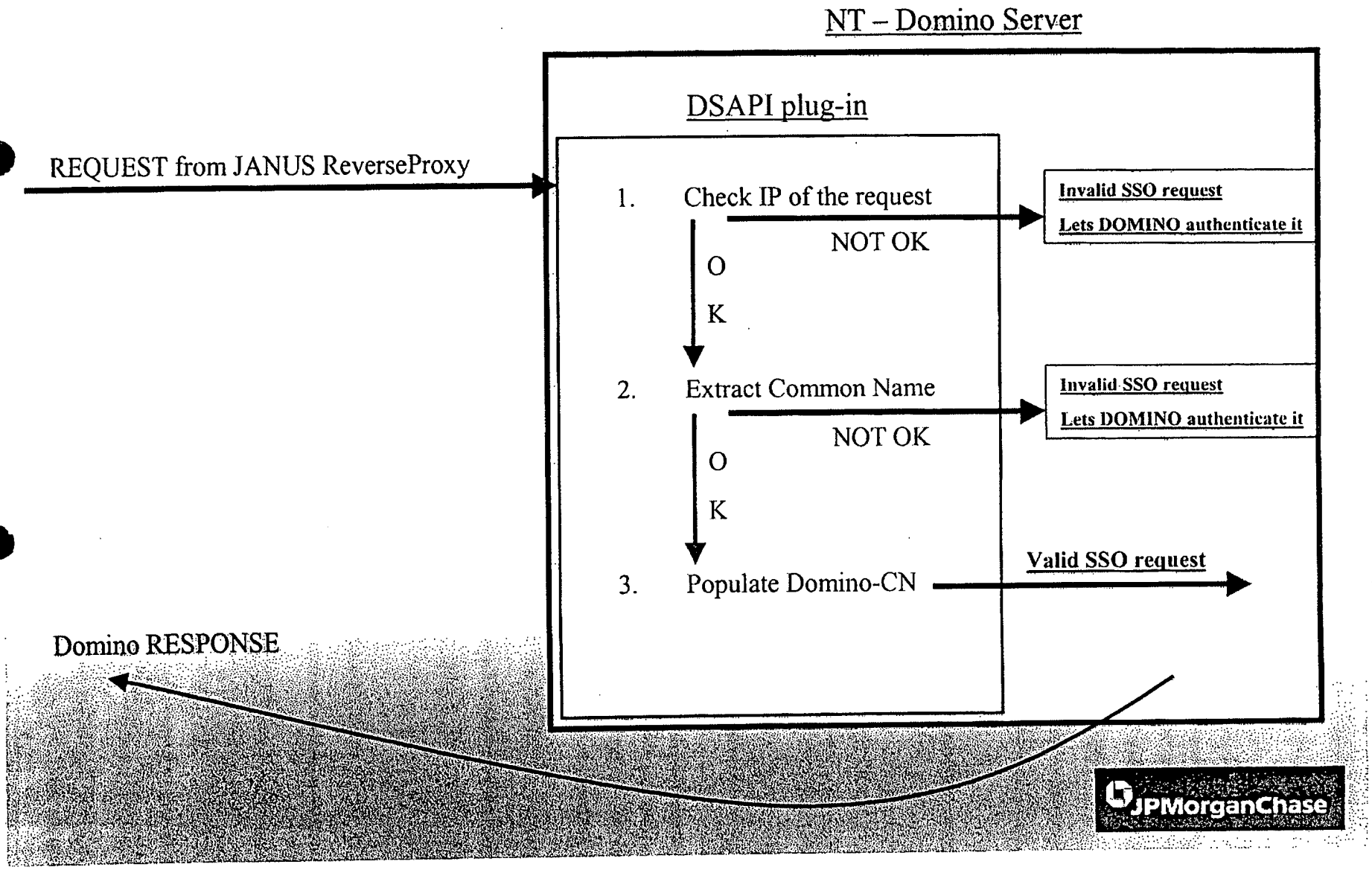

EXHIBIT B

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

PLEASE RETURN COMPLETED QUESTIONNAIRE TO ANDY CADEL
AT
Cadel_a@jpmorgan.com

CONFIDENTIAL

This Is A
Confidential Disclosure
For Your Attorney's Use Only
Use It To Record Your Invention

The following is a short guide and questionnaire designed to elicit the information necessary to assess the patentability of your idea.

ASSESSING THE PATENTABILITY OF YOUR IDEA

There are three questions you should ask yourself when you begin the patent process:

1. **What process/product is already available to do what your patent would accomplish?**

2. **What makes your process/product better?**

3. **Will you know if other people/companies are using your patented product or process?**

If any of the questions below are unclear, or you have specific issues regarding patents, please do not hesitate to call Andy Cadel at 212-622 5139.

CONFIDENTIAL

This Is A
Confidential Disclosure
For Your Attorney's Use Only
Use It To Record Your Invention

By answering the questions in this form, you will begin the important process of looking carefully at your idea as well as documenting your invention. When properly completed, this form is useful in conducting patentability or infringement searches, preparing and prosecuting patent applications, and proving the date of your invention in legal proceedings.

To be patentable, an invention must be new, useful (or ornamental in the case of a design patent) and non-obvious. Certain acts by you or others that pre-date the filing of a patent application on your invention may preclude you from obtaining a valid patent in the USA and/or in many foreign countries. Accordingly, a patent application should be prepared and filed in the U.S. Patent and Trademark Office prior to any disclosure or commercial use. If this is not possible, arrangements should be made for the disclosure to be made subject to a non-disclosure or confidentiality agreement. There is a one-year grace period under U.S. patent law for disclosure of any invention prior to the filing of an application, but it should be relied upon only if you know that you have no interest in protection outside the United States.

As an applicant for a U.S. patent, you are required to disclose to the U.S. Patent and Trademark Office all prior products, publications and other prior activities known to you which are similar to or closely related to your invention so that the Patent Office can fairly measure and evaluate your invention. Please note that this prior art includes your own prior products as well as those of competitors, regardless of whether or not such products have ever been patented and is limited neither to the banking industry, nor to the United States.

Please answer these questions to the best of your present knowledge and ability.

1. The title that you believe best describes the invention. _____
A system and method for providing Single-Sign On amongst systems with diverse authentication and entitlements schemes

2. If the invention is an improvement on or of another product, machine, system or process, identify that other product, machine, system or process. _____
_____
Improvement over the existing multiple login schemes when using Domino Notes Server, IWR, etc.

3. Identify the JP Morgan Chase line of business for which the invention was developed.
_____Global Credit Risk Management_____
_____
_____
_____

4. U.S. law requires that the actual inventor or inventors be designated in any U.S. patent application. If you did not conceive of this invention alone, identify all person(s) (full names, addresses, and citizenship) whom you believe to have created the invention. _____
Srinivasan N. Rao , 277 Park, New York, Indian Citizen
Lioun Chen , 277 Park, New York, US Citizen
Bruce Skingle, **Floor 1, London, EC3V3DX, United Kingdom, UK citizen**
_____
_____
_____

5. Were any of the persons identified in question 4 above employed by third party (i.e., not a JP Morgan Chase employee)? If so, identify such party and provide any agreement relating thereto. _____
_____
_____
_____
_____
_____
_____
_____

6. On what date was the first written description of this invention made (provide the closest date known); by whom was it made? State the first written description and attach a copy (if available).
February 2003

7. On what date was the first drawing or sketch of the invention made (provide the closest date known); by whom was it made? Attach a copy (if available).
March 2003

8. When was the first disclosure (if any) of the invention made to anyone outside the JP Morgan Chase enterprise (when, where, by whom, to whom) and what was the nature of the disclosure?

9. When was the earliest known use of the invention (and was it secretive, experimental or commercial)?
May 2003 – experimental. July – production within JPM

10. When (if at all) was the invention first marketed or offered for sale (date, where, to and by whom)?

11. When was the invention first actually constructed or used in a production environment (provide date, location of records of field testing or experimental work which shows or tends to show the operability of the invention; describe the work done)? Constructed : May 2003 for IWR. June 2003 for Domino Notes Server Currently UAT completed. Deployment in Production : July 2003

12. If you have not yet publicly disclosed the invention, when is your planned release date of the product or your planned announcement date? July 2003

13. List the specific problems that the invention solves. Allows users to use their JANUS credentials to access assets in Domino servers and other HTTP servers without requiring multiple logins provided these various servers rely on some Common Reference data which uniquely identifies the JPM user (like GID or "Common Name").

14. List the features of the invention that you believe are different from current processes or products of which you are aware. The current alternative is to make the user log in multiple time when using JANUS and , say, Domino Server

15. In light of these new features, what are the advantages and disadvantages of the invention compared to current processes or products of which you are aware? Advantage : Lightweight,

Disadtvantage : Requires some effort on the part of the back-end HTTP application to ensure that the JANUS ids translate to its own native Ids on which its entitlement system might be based.

16. Describe variations (if any) or future improvements of the invention which you presently recognize.

17. Describe, in general terms, the future development or testing of the invention which you contemplate, if any.

18. To the best of your present knowledge, was the invention known or used or marketed by someone else in the world before the present invention was made by you? If so, when, where, and by whom?

19. Has the invention been patented or described in a printed publication in any country? If so, when and where?

20. So far as you are presently aware, has anyone copied your invention or developed a competing product? If so, who, when and where?

21. Does the JP Morgan Chase enterprise have any partners or others with whom it is working on this invention (e.g., contractors, vendors or consultants)? If so, list their names and addresses and provide any agreements which reflect such relations. _____

22. What companies or organizations, or types of companies and organizations, do you think would possibly be interested in this invention? Any organization which wishes to provide a single-sign on solution between its corporate standard SSO system (which, for HTTP, in our case, is JANUS) and systems like Domino SSO or Intraspect which are 3rd party systems and often based on their own authentication models.

23. What is the cost center number associated with the invention? 57942

July 07, 2003
Date

Signature of the Inventor or Other Person Preparing this Form

Srinivasan N. Rao
Typed or Printed Name

26th floor, 277 Park , New York
Full Address

212-622-0570
Telephone Number

PLEASE RETURN COMPLETED QUESTIONNAIRE TO ANDY CADEL AT
Cadel_a@jpmorgan.com

USE THIS SPACE TO DESCRIBE YOUR INVENTION

If you already have functional specifications, process flows and/or business requirements, they may be adequate. Simply attach them to this form. *Please do not reinvent the wheel. Always start with any documentation developed to date. If more information is needed, it will be requested at a later time.*

If, however, there is no documentation, set forth in your own words what your invention is, how your invention works, and its advantages. Provide process flows of your invention and attach to this form. If necessary, use additional sheets of paper for this description.

EXHIBIT C

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Alex R Pagano
07/08/2003 08:35 PM

To: Camille Payne/Lowenstein@Lowenstein
cc:
Subject: Re: Applying for patents (- CReST)

Please do the usual.. I let you know to whom the case is assigned.

need Condensed Title

Alex R. Pagano, Ph.D.
Registered Patent Agent
Lowenstein Sandler PC
65 Livingston Avenue
Roseland, NJ 07068
dir. dial: 973-597-6202
fax: 973-597-6203
Cell: 973-476-1220
Secretary: Camille Payne 973-597-2500
----- Forwarded by Alex R Pagano/Lowenstein on 07/08/2003 08:30 PM -----

cadel_a@jpmorgan.com
07/08/2003 05:35 PM

To: APagano@lowenstein.com
cc: ezimmerman@lowenstein.com
Subject: Re: Applying for patents - CReST

Another prospect.

Andy

Andy Cadel
J.P. Morgan Chase & Co.
Vice President & Assistant General Counsel
(212) 622 5139
cadel_a@jpmorgan.com
----- Forwarded by Andrew N Cadel/JPMCHASE on 07/08/2003 05:34 PM -----

Srinivasan Rao
Cadel/JPMCHASE@JPMCHASE
07/07/2003 04:48 PM

To: Andrew N
cc:
Subject: Re: Applying for patents (Document link: Andrew N Cadel)

Andy,
Thanks for the info. I have compiled some info. which hopefully shed more light on the "invention" we are trying to patent. I may have missed it, but I'll be happy to submit it on the IBPatents web site if it has the functionality to do.

The first implementation of this is planned to be rolled out into production in July 2003 (we are in UAT currently) and pertains to the Domino Server (which is an IBM Notes product), and will allow our users to seamlessly access our web offering both on our Janus-protected web sites and on Domino by logging in just once through our Janus-protected web site. Janus (as you may know) is the SSO system used by many of the JPM websites (including MorganMarkets). While this implementation is specific to Janus-Domino, the principles are applicable to other cases where we need to integrate Janus-protected websites with other web services which have their

own complex "entitlement scheme". In other words, this model allows one to rely on Janus to answer the question "who is this person", while allowing one to rely on one's own business-specific logic/system to answer the question "what can this person access or do on my web application".

The disclosure info. (somewhat sketchy) -> (See attached file: Disclosure_Form_SSO.DOC)
Details of the architecture (specific to Domino Servers) -> (See attached file: Domino_PA.ppt)

Please let me know if I can do anything more to shed light in re this "invention".

Many thanks.
Sri.
(GDP : 622-0570)

Legal 212 622 5139

Andrew N Cadel
Rao/JPMCHASE@JPMCHASE
07/07/2003 03:21 PM

To: Srinivasan
cc:
Subject: Re: Applying for patents(Document link: Srinivasan Rao)

Sri,

Good to hear from you. If you type "ibpatents" in IE it will take you to the IBTech Patent page. There's a form (called the disclosure form) that guides you through the information we'll need. Also, any pre-existing documentation or management presentations are also helpful. Of course, feel free to call with any questions, etc.

Andy

Andy Cadel
J.P. Morgan Chase & Co.
Vice President & Assistant General Counsel
(212) 622 5139
cadel_a@jpmorgan.com

Srinivasan Rao
Cadel/JPMCHASE@JPMCHASE
07/07/2003 10:18 AM

To: Andrew N
cc:
Subject: Applying for patents

Andy,
We recently came up with a Single Sign-on solution between Janus and Domino and I am wondering if we can apply for patent for it ? Is there a set of

guidelines in terms of what "inventions" are appropriate for application of patent ? Also, is there a standard format in which I need to provide the info. (assuming this invention of ours "qualifies" for the purposes of applying for a patent) ?

Thanks.
Sri.
(GDP : 212-622-0570)


Disclosure Form SSO.DC Domino PA.ppt

EXHIBIT D

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Alex R Pagano
07/09/2003 11:02 AM

To: George D Morgan/Lowenstein@Lowenstein
cc: Camille Payne/Lowenstein@Lowenstein
Subject: Re: Applying for patents - CReST

George, Glen has talked to Mike and agrees that you can take both of the new chase cases. Camille will open the files. please contact Andy and let him know you will be taking the cases and so that he can set up first inventor interviews. thanks

George D Morgan

George D Morgan
07/09/2003 09:53 AM

To: Alex R Pagano/Lowenstein
cc:
Subject: Re: Applying for patents - CReST

Hi Alex, I can take one or two of the JPM's

EXHIBIT E

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Single Sign-On with Notes Domino
14846-32

George D. Morgan
Lowenstein Sandler PC

This invention involves an authentication "plug-in" module that acts as an interface between a corporate sign-on system (e.g., JANUS) and an internal server (e.g., Domino Server) used by the same entity. The authentication module takes advantage of the fact that a user request received from the sign-on module guarantees that the user has already successfully gone through the authentication process. Once the user has been authenticated by the sign-on system (e.g., entered a valid corporate ID and password), the sign-on system sends the request to the authentication module. The authentication module then checks the IP address to verify that it matches the expected IP address of the sign-on system. (If it does not match, the logon attempt fails.) The authentication module then examines entitlement information in the header record. In the case where the system is a Domino server, the entitlement information would include the user's e-mail address. The e-mail address would have been placed into the header by the sign-on system using a table look-up. The index for the table look-up would be the corporate ID. Other systems may have different requirements. For example, another system might be passed an Employee ID. One of the advantages of this arrangement is that only "entitlement" information needs to be sent. Authentication information, such as password information, is not generally needed because the user has already been authenticated by the sign-on system. Next, certain data structures (e.g., Domino-CN) may need to be populated. In terms of an actual implementation in a Lotus Domino environment, the authentication module can be loaded into the Domino System Application Program Interface (DSAPI) library. When the Domino server is initially called, the authentication module performs the functionality outlined above.

Document Number: 1426051
Date Created: 7/31/2003
Last Edit: 7/31/2003
Process Date: 3/29/2008
Total Time: 54 minutes
Typing Time:
Keystrokes: 0

Date	Time	Type	Version	User
7/14/2004	**10:05 AM**	**Access**	**1**	**PAYNE C**
10/8/2003	**5:17 PM**	**Access**	**1**	**MORGAN G**
7/31/2003	**7:04 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute	Billable: N	Author: MORGAN G		
7/31/2003	**6:41 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 23 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:37 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 5 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:37 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute	Billable: N	Author: MORGAN G		
7/31/2003	**6:29 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 9 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:22 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 7 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:17 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 6 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:16 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 2 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:11 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 6 minutes	Billable: N	Author: MORGAN G		
7/31/2003	**6:11 PM**	**Edit**	**1**	**MORGAN G**
Billable: N	Author: MORGAN G			
7/31/2003	**6:10 PM**	**Create**	**1**	**MORGAN G**
Billable: N	Author: MORGAN G			

EXHIBIT F

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

srinivasan.n.rao@jpmorgan.com
08/04/2003 05:28 PM

To: GMorgan@lowenstein.com
cc:
Subject: Re: Applying for patents

Hi,
The plug-in does not "validate" the Common Name (which is in the header of the request) but simply takes it from the header and puts it into a DSAPI structure which Domino can access and then say : "ok, I know this guy now, what can he see or not see". It is like Domino can take from my left pocket while the Common Name is in my right pocket. The DSAPI plug-in we wrote makes sure the request is from the correct IP address (of the reverseProxy), makes sure the request has the Common Name in the header (right pocket), takes it from the header (right pocket) and moves it to the Domino buffers (left pocket), and tell Domino - I know this chap and have authenticated him so deal with this request.

The "Common Name" is populated (not by the plug-in but before the request gets to the plug-in) in the header based on the JANUS ID. Each employee who is granted access to the web site has a Janus ID (for ex., gmorgan). This ID is associated with the person's employee number, which is turn is associated with the person's DOMINO "Common Name". So when a person logs into JANUS using the JANUS ID of gmorgan, we can reliably derive this person's "Common Name" from the Reference data tables (hence the data is already validated).

Hope this clarifies the matter.

Regards.
Sri.

GMorgan@lowenstein.com
08/04/2003 05:06 PM

To: srinivasan.n.rao@jpmorgan.com
cc:
Subject: Re: Applying for patents

Question --

With regard to step 2 "Extract Common Name" , it appears that you are validating the CN information.

Can you explain this step? Can the plug-in validate the e-mail address by itself?

srinivasan.n.rao@jpmorgan.com
08/04/2003 12:49

To: gmorgan@lowenstein.com
cc: cadel_a@jpmorgan.com
Subject: Re: Applying for

EXHIBIT G

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Document Number: 1429104
Date Created: 8/7/2003
Last Edit: 7/14/2004
Process Date: 3/29/2008
Total Time: 14 hours 27 minutes
Typing Time: 9 hours 18 minutes
Keystrokes: 27364

Date	Time	Type	Version	User
10/1/2007	7:40 PM	Access	1	SIERCHIO D
7/26/2004	2:11 PM	Access	1	PAYNE C
7/14/2004	10:07 AM	Print	1	PAYNE C
Pages Printed: 10 Billable: N				
7/14/2004	10:03 AM	Edit	1	PAYNE C
Keystrokes: 2 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: PAYNE C				
6/26/2004	12:49 PM	Access	1	GELLER A
11/20/2003	10:22 AM	Access	1	MORGAN G
10/7/2003	6:25 PM	Copied To	1	MORGAN G
Library Name: LEGAL - ROSELAND Doc Number: 1455735				
10/7/2003	6:24 PM	Edit	1	MORGAN G
Keystrokes: 53 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
9/11/2003	1:52 PM	Access	1	MORGAN G
9/9/2003	11:53 AM	Copied To	1	MORGAN G
Library Name: LEGAL - ROSELAND Doc Number: 1442244				
9/9/2003	11:06 AM	Access	1	MORGAN G
9/8/2003	5:50 PM	Print	1	MORGAN G
Pages Printed: 10 Billable: N				
9/8/2003	5:48 PM	Edit	1	MORGAN G
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
9/5/2003	8:25 PM	Print	1	MORGAN G
Pages Printed: 10 Billable: N				
9/5/2003	3:45 PM	Edit	1	MORGAN G
Keystrokes: 11 Total Time: 5 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
9/3/2003	5:47 PM	Access	1	MORGAN G
9/3/2003	10:46 AM	Print	1	MORGAN G
Pages Printed: 10 Billable: N				
9/3/2003	10:35 AM	Edit	1	MORGAN G
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
9/3/2003	10:27 AM	Edit	1	MORGAN G
Keystrokes: 418 Total Time: 8 minutes Typing Time: 8 minutes Billable: N Author: MORGAN G				
8/26/2003	12:31 PM	Access	1	MORGAN G
8/22/2003	6:47 PM	Access	1	MORGAN G
8/22/2003	6:24 PM	Print	1	MORGAN G
Pages Printed: 14 Billable: N				
8/22/2003	6:20 PM	Edit	1	MORGAN G
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/22/2003	6:01 PM	Edit	1	MORGAN G
Keystrokes: 24 Total Time: 20 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/22/2003	5:57 PM	Edit	1	MORGAN G
Keystrokes: 77 Total Time: 4 minutes Typing Time: 4 minutes Billable: N Author: MORGAN G				
8/21/2003	7:50 PM	Access	1	MORGAN G
8/15/2003	5:47 PM	Access	1	MORGAN G
8/15/2003	5:47 PM	Copied To	1	MORGAN G
Library Name: LEGAL - ROSELAND Doc Number: 1433028				
8/15/2003	5:46 PM	Access	1	MORGAN G

Date	Time	Type	Version	User
8/13/2003	**8:14 PM**	**Print**	**1**	**MORGAN G**
Pages Printed: 28 Billable: N				
8/13/2003	**8:08 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:58 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 31 Total Time: 11 minutes Typing Time: 11 minutes Billable: N Author: MORGAN G				
8/13/2003	**7:58 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:57 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 78 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:57 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:47 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 39 Total Time: 10 minutes Typing Time: 10 minutes Billable: N Author: MORGAN G				
8/13/2003	**7:47 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:35 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 77 Total Time: 12 minutes Typing Time: 12 minutes Billable: N Author: MORGAN G				
8/13/2003	**7:35 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:34 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 80 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:33 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 2 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:19 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 121 Total Time: 15 minutes Typing Time: 15 minutes Billable: N Author: MORGAN G				
8/13/2003	**7:19 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/13/2003	**7:06 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 804 Total Time: 13 minutes Typing Time: 13 minutes Billable: N Author: MORGAN G				
8/13/2003	**6:48 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 472 Total Time: 19 minutes Typing Time: 19 minutes Billable: N Author: MORGAN G				
8/13/2003	**6:46 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 21 Total Time: 2 minutes Typing Time: 2 minutes Billable: N Author: MORGAN G				
8/13/2003	**6:42 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 97 Total Time: 5 minutes Typing Time: 3 minutes Billable: N Author: MORGAN G				
8/11/2003	**5:37 PM**	**Access**	**1**	**MORGAN G**
8/11/2003	**4:22 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 66 Total Time: 2 minutes Typing Time: 2 minutes Billable: N Author: MORGAN G				
8/11/2003	**3:59 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 2 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**3:48 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 369 Total Time: 11 minutes Typing Time: 11 minutes Billable: N Author: MORGAN G				

Date	Time	Type	Version	User
8/11/2003	**3:46 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 23 Total Time: 2 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**3:19 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 374 Total Time: 28 minutes Typing Time: 15 minutes Billable: N Author: MORGAN G				
8/11/2003	**3:19 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**2:42 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 63 Total Time: 37 minutes Typing Time: 17 minutes Billable: N Author: MORGAN G				
8/11/2003	**2:42 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**2:19 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 43 Total Time: 24 minutes Typing Time: 8 minutes Billable: N Author: MORGAN G				
8/11/2003	**1:21 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 532 Total Time: 58 minutes Typing Time: 23 minutes Billable: N Author: MORGAN G				
8/11/2003	**12:11 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1910 Total Time: 1 hour 10 minutes Typing Time: 42 minutes Billable: N Author: MORGAN G				
8/11/2003	**12:11 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**11:56 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 576 Total Time: 15 minutes Typing Time: 9 minutes Billable: N Author: MORGAN G				
8/11/2003	**11:56 AM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**11:30 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 578 Total Time: 26 minutes Typing Time: 11 minutes Billable: N Author: MORGAN G				
8/11/2003	**11:30 AM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**11:30 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 36 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**10:50 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 619 Total Time: 40 minutes Typing Time: 25 minutes Billable: N Author: MORGAN G				
8/11/2003	**10:38 AM**	**Edit**	**1**	**MORGAN G**
Total Time: 13 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/11/2003	**10:22 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 848 Total Time: 16 minutes Typing Time: 16 minutes Billable: N Author: MORGAN G				
8/11/2003	**10:19 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 75 Total Time: 4 minutes Typing Time: 4 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:58 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 845 Total Time: 21 minutes Typing Time: 21 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:57 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 22 Total Time: 2 minutes Typing Time: 2 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:55 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 35 Total Time: 2 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				

Date	Time	Type	Version	User
8/11/2003	**9:38 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1999 Total Time: 18 minutes Typing Time: 16 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:20 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 942 Total Time: 18 minutes Typing Time: 18 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:16 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 252 Total Time: 5 minutes Typing Time: 4 minutes Billable: N Author: MORGAN G				
8/11/2003	**9:05 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 603 Total Time: 12 minutes Typing Time: 11 minutes Billable: N Author: MORGAN G				
8/11/2003	**8:57 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 459 Total Time: 8 minutes Typing Time: 7 minutes Billable: N Author: MORGAN G				
8/11/2003	**8:48 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 441 Total Time: 10 minutes Typing Time: 9 minutes Billable: N Author: MORGAN G				
8/11/2003	**8:46 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 85 Total Time: 3 minutes Typing Time: 2 minutes Billable: N Author: MORGAN G				
8/11/2003	**8:45 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 36 Total Time: 2 minutes Typing Time: 2 minutes Billable: N Author: MORGAN G				
8/11/2003	**8:35 AM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 347 Total Time: 11 minutes Typing Time: 9 minutes Billable: N Author: MORGAN G				
8/8/2003	**7:20 PM**	**Access**	**1**	**MORGAN G**
8/7/2003	**8:18 PM**	**Print**	**1**	**MORGAN G**
Pages Printed: 14 Billable: N				
8/7/2003	**8:05 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 2 minutes Typing Time: 1 minute Billable: N Author: MORGAN G				
8/7/2003	**7:53 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1575 Total Time: 13 minutes Typing Time: 12 minutes Billable: N Author: MORGAN G				
8/7/2003	**7:30 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1851 Total Time: 23 minutes Typing Time: 18 minutes Billable: N Author: MORGAN G				
8/7/2003	**7:10 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1788 Total Time: 20 minutes Typing Time: 18 minutes Billable: N Author: MORGAN G				
8/7/2003	**6:55 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 862 Total Time: 16 minutes Typing Time: 14 minutes Billable: N Author: MORGAN G				
8/7/2003	**6:38 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 1045 Total Time: 17 minutes Typing Time: 14 minutes Billable: N Author: MORGAN G				
8/7/2003	**6:10 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 682 Total Time: 29 minutes Typing Time: 17 minutes Billable: N Author: MORGAN G				
8/7/2003	**5:54 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 159 Total Time: 16 minutes Typing Time: 6 minutes Billable: N Author: MORGAN G				
8/7/2003	**5:52 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 85 Total Time: 3 minutes Typing Time: 3 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:56 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 258 Total Time: 56 minutes Typing Time: 6 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:56 PM**	**Edit**	**1**	**MORGAN G**
Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				

Date	Time	Type	Version	User
8/7/2003	**4:53 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 35 Total Time: 3 minutes Typing Time: 3 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:50 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 94 Total Time: 4 minutes Typing Time: 4 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:42 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 274 Total Time: 8 minutes Typing Time: 8 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:25 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 889 Total Time: 17 minutes Typing Time: 17 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:22 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 76 Total Time: 4 minutes Typing Time: 4 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:15 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 283 Total Time: 8 minutes Typing Time: 8 minutes Billable: N Author: MORGAN G				
8/7/2003	**4:15 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 4 Total Time: 1 minute Typing Time: 1 minute Billable: N Author: MORGAN G				
8/7/2003	**3:24 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 2675 Total Time: 51 minutes Typing Time: 40 minutes Billable: N Author: MORGAN G				
8/7/2003	**3:24 PM**	**Edit**	**1**	**MORGAN G**
Billable: N Author: MORGAN G				
8/7/2003	**3:23 PM**	**Copied From**	**1**	**MORGAN G**
Library Name: LEGAL - ROSELAND Doc Number: 1427921				
8/7/2003	**3:12 PM**	**Edit**	**1**	**MORGAN G**
Keystrokes: 146 Total Time: 13 minutes Typing Time: 6 minutes Billable: N Author: MORGAN G				

EXHIBIT H

Attached to the Declaration under 37 C.F.R. § 1.131
U.S. Patent Application No. 10/721,063

Please type a plus sign (+) inside this box → [+]

PTO/SB/16 (5-03)
Approved for use through 04/30/2003. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

INVENTOR(S)

Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)
Srinivasan N.	Rao	277 Park, NY, Indian Citizen
Lioun	Chen	277 Park, NY, US Citizen
Bruce	Skingle	Floor 1, London EC3V3DX, United Kingdom, UK Citizen

☐ *Additional inventors are being named on th____ separately numbered sheets attached hereto*

TITLE OF THE INVENTION (280 characters max)

SINGLE SIGN-ON AUTHENTICATION SYSTEM

CORRESPONDENCE ADDRESS

Direct all correspondence to:

☐ Customer Number [ ] → *Place Customer Number Bar Code Label here*

OR *Type Customer Number here*

☒ Firm *or* Individual Name	George D. Morgan, Esq., Reg. No: 46,505				
Address	Lowenstein Sandler, P.C.				
Address	65 Livingston Avenue				
City	Roseland	State	NJ	ZIP	07068
Country	United States	Telephone	973-597-2500	Fax	973-597-2400

ENCLOSED APPLICATION PARTS *(check all that apply)*

☒ Specification *Number of Pages* 10
☒ Drawing(s) *Number of Sheets* 2
☐ Application Data Sheet. See 37 CFR 1.76
☐ CD(s), Number
☐ Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

		FILING FEE AMOUNT ($)
☐	A check or money order is enclosed to cover the filing fees	
☒	The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number 501358	$160.00
☐	Payment by credit card. Form PTO-2038 is attached.	

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.
☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE *Geo D. Mo*

TYPED or PRINTED NAME GEORGE D. MORGAN, ESQ.

TELEPHONE 973-597-2500

Date 9/3/03

REGISTRATION NO. *(if appropriate)* 46,505

Docket Number: 14846-32

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Provisional Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

P19LARGE/REV05

SINGLE SIGN-ON AUTHENTICATION SYSTEM

Field of the Invention

The present invention relates generally to computer network security, and, more particularly, to a system and a method for enabling a secure single sign-on to a computer network.

Background of the Invention

Currently, many companies employ computer networks that require users to separately sign-on to individual systems. For instance, a user may be required to sign-on to one computer system in order to access a spreadsheet application and then to another to access an e-mail application. Very often, users are prompted for a different user id and password during each sign on. The user must then remember several different user id's and passwords.

In an attempt to deal with this problem, some vendors offer single sign-on (SSO) capability. However, conventional SSO systems typically entail complex authentication schemes. For example, U.S. Patent No. 5,684,950 to Dare et al., entitled "Method and System for Authenticating Users to Multiple Computer Servers Via a Single Sign-On," discloses a method for authenticating a user to multiple computer servers. The method involves an authentication broker which receives an authentication request. The authentication broker then validates the request and issues a token. Once the user's workstation has received the token from the authentication broker, it then sends the token to the server that it wishes to interact with, to indicate that it has been authenticated.

Although useful, SSO schemes such as the one described above involve a significant amount of overhead. Accordingly, improved SSO systems and methods are needed.

Summary of the Invention

The present invention provides a technique for enabling a secure, single sign-on to a computer network that requires comparatively less complexity and overhead than conventional single sign-on methods.

A single sign-on authentication system includes an authentication component that determines whether a user is authenticated, and, if it is determined that the user is authenticated, generates a connection request, the connection request including an identifier and entitlement information. The system also includes an interface component that receives the connection request from the authentication component. The interface component compares the received identifier with an expected identifier. If they match, the interface component makes the entitlement information available to a server associated with the interface component.

A method for enabling an authenticated user to connect to a server in a computer network includes receiving a connection request for an authenticated user, the connection request including an identifier and entitlement information; comparing the received identifier with an expected identifier; and, if they match, making the entitlement information available to the server.

These and other aspects, features and advantages of the present invention will become apparent from the following detailed description of preferred embodiments, which is to be read in connection with the accompanying drawings.

Brief Description of the Drawings

FIG. 1 is a block diagram showing an exemplary single sign-on authentication system; and

FIG. 2 shows a flow diagram outlining an exemplary technique for processing a connection request.

Description of Preferred Embodiments

The present invention takes advantage of the notion that once a user has successfully signed on to a network, any computer system in the network receiving a connection request need only verify that the connection request was received from the network's sign-on component. If the connection request originated with the sign-on component, then there is no need to again query the user for authentication information and to authenticate the user.

FIG. 1 is a block diagram of an exemplary single sign-on authentication system 100. The single sign-on authentication system 100 includes a terminal 110, a sign-on component 120, and a server 150. The server 150 includes an interface component 152 and a request processor 154. While this system 100 includes a single terminal 110 and a single server 150, it is to be appreciated that typically there would be numerous other terminals and servers connected to the sign-on component 150.

In operation, a user interacting with the terminal 110 is presented with a sign-on screen (not shown). The user then enters authentication information using this screen. The entered authentication information is then transmitted to the sign-on component 120. In general, authentication information includes any information used to verify a person's identity to ensure that the person has access to a particular computer network. Commonly, authentication information includes a unique identifier and a password. In an alternative embodiment, the terminal 110 includes a biometric device (e.g., fingerprint reader, retina scan) which may instead, or in addition, be used to verify the user's identity.

Once the authentication information is received by the sign-on component 120, it can be used to determine whether the user is authorized to use the network. This can be done, for example, by comparing the received authentication information with information on file regarding valid users.

After the user is authenticated, the sign-on component 120 preferably determines which systems in the network the user may access. The user might be prompted to select which of the systems to access. Alternatively, the selection process could be accomplished automatically (e.g., via a script). The sign-on component 120 also preferably determines the entitlement information needed by each of the individual systems that the user will access. In general, entitlement information includes information used by an individual computer system to assign system resources and/or establish user preferences. The sign-on component 120 then issues several connection requests, each to connect to one of the selected systems.

FIG. 2 is an exemplary flow diagram outlining an exemplary technique for processing a connection request.

In step 202, header information from the connection request is obtained. This header information will generally include a source identifier and entitlement information. Assuming that the connection request is an HTTP request, the source identifier will include an Internet Protocol (IP) address. In general, an IP address is a 32-bit binary number that uniquely identifies a host (computer) connected to the Internet, for the purpose of communication through the transfer of packets. The use of IP addresses is part of the standard transmission control protocol/Internet protocol (TCP/IP).

Next, in step 203, a determination is made as to whether the IP address is valid. Since the sign-on component 120 will have a known IP address, verification of the IP address can be accomplished by simply comparing the obtained IP address against the known IP address of the sign-on component 120. If the IP address cannot be verified (i.e., it doesn't match), control passes to step 204, where a message indicating an invalid connection is returned; otherwise, control passes to step 204.

In step 204, a determination is made as to whether the entitlement information is in the correct format. If this information is not in the proper format (or isn't present), control passes to step 205, where a message indicating an invalid connection is returned; otherwise, control passes to step 206. (The format of the entitlement information will vary depending on the particular application. For example, if the information includes the user's e-mail address, the format could be xxxxx@xxxxx.com).

In step 206, the request processor 154 is called. When the request processor 154 is called, the entitlement information (e.g., e-mail address) can be used to establish access

to the system. The request processor assigns resources and/or preferences using the entitlement information. Once access has been established, the user may thereupon directly connect to the server 150. The process terminates in step 207.

It is be understood that the method outlined above an be implemented in various forms of hardware, software, firmware, special purpose processors, or a combination thereof. Preferably, the present invention is implemented in software as a program tangibly embodied on a program storage device.

It is also to be understood that, because some of the constituent system components and method steps depicted in the accompanying figures are preferably implemented in software, the actual connections between the system components (or the process steps) may differ depending upon the manner in which the present invention is programmed.

The invention will be further clarified by the following example:

Example 1

A user accesses a corporate intranet using a personal computer. The user's computer employs the Microsoft Windows operating system, and includes the Internet Explorer browser. The user must enter a unique identifier and a password to sign on.

The user has access to a Lotus Notes e-mail system running on a Domino Server, securely maintained in the same facility as the sign-on system. The "interface component" is a Domino System Application Program Interface (DSAPI) plug-in module. The DSAPI plug-in module is maintained on a DSAPI library.

In operation, the user connects to the corporate intranet using the browser. The user then is queried for his user identifier and password. The user enters this information into the screen. The entered information is then transmitted to the sign-on component, where it is validated. The sign-on component then searches for systems that the user is entitled to access. It is determined that the user has access to the Lotus Notes e-mail system. The sign-on component then consults a cross-reference file, and finds the user's Lotus Notes e-mail address. The sign-on component calls the Domino Server. When the Domino Server is initially called, it invokes the DSAPI plug-in module. The module checks the IP address of the request packet to make sure that it matches the expected address. Assuming it matches, the module then formats a Common Name (CN) data structure with the e-mail address (and other information). The Domino Request Processor then uses the Domino-CN, to provide the user with appropriate access.

Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit of the invention.

WHAT IS CLAIMED IS:

1. A single sign-on authentication system, comprising:

an authentication component that determines whether a user is authenticated, and, if it is determined that the user is authenticated, generates a connection request;

an interface component that receives the connection request from the authentication component, the connection request including an identifier and entitlement information; wherein the interface component compares the received identifier with an expected identifier and, if they match, makes the entitlement information available to a server associated with the interface component.

2. A method for enabling an authenticated user to connect to a server in a computer network, comprising:

receiving a connection request for the authenticated user, the connection request including an identifier and entitlement information;

comparing the received identifier with an expected identifier; and

making the entitlement information available to the server, only if the result of the comparison is a match.

3. The method of claim 2, wherein the entitlement information is different from information used to authenticate the authenticated user.

4. The method of claim 2, wherein the received identifier is an Internet Protocol (IP) address.

5. The method of claim 3, wherein the entitlement information is determined based on the authentication information.

6. The method of claim 5, wherein the information used to authenticate the authenticated user includes one or more of a user identifier and a password.

7. The method of claim 2, wherein the entitlement information is contained in a header portion of a data packet.

8. The method of claim 2, wherein the connection request is sent as an HTTP request.

SINGLE SIGN-ON AUTHENTICATION SYSTEM

Abstract of the Disclosure

A single sign-on authentication system includes an authentication component that determines whether a user is authenticated, and, if it is determined that the user is authenticated, generates a connection request, the connection request including an identifier and entitlement information. The system also includes an interface component that receives the connection request from the authentication component. The interface component compares the received identifier with an expected identifier. If they match, the interface component makes the entitlement information available to a server associated with the interface component. A method for enabling an authenticated user to connect to a server in a computer network includes receiving a connection request for an authenticated user, the connection request including an identifier and entitlement information; comparing the received identifier with an expected identifier; and, if they match, making the entitlement information available to the server.

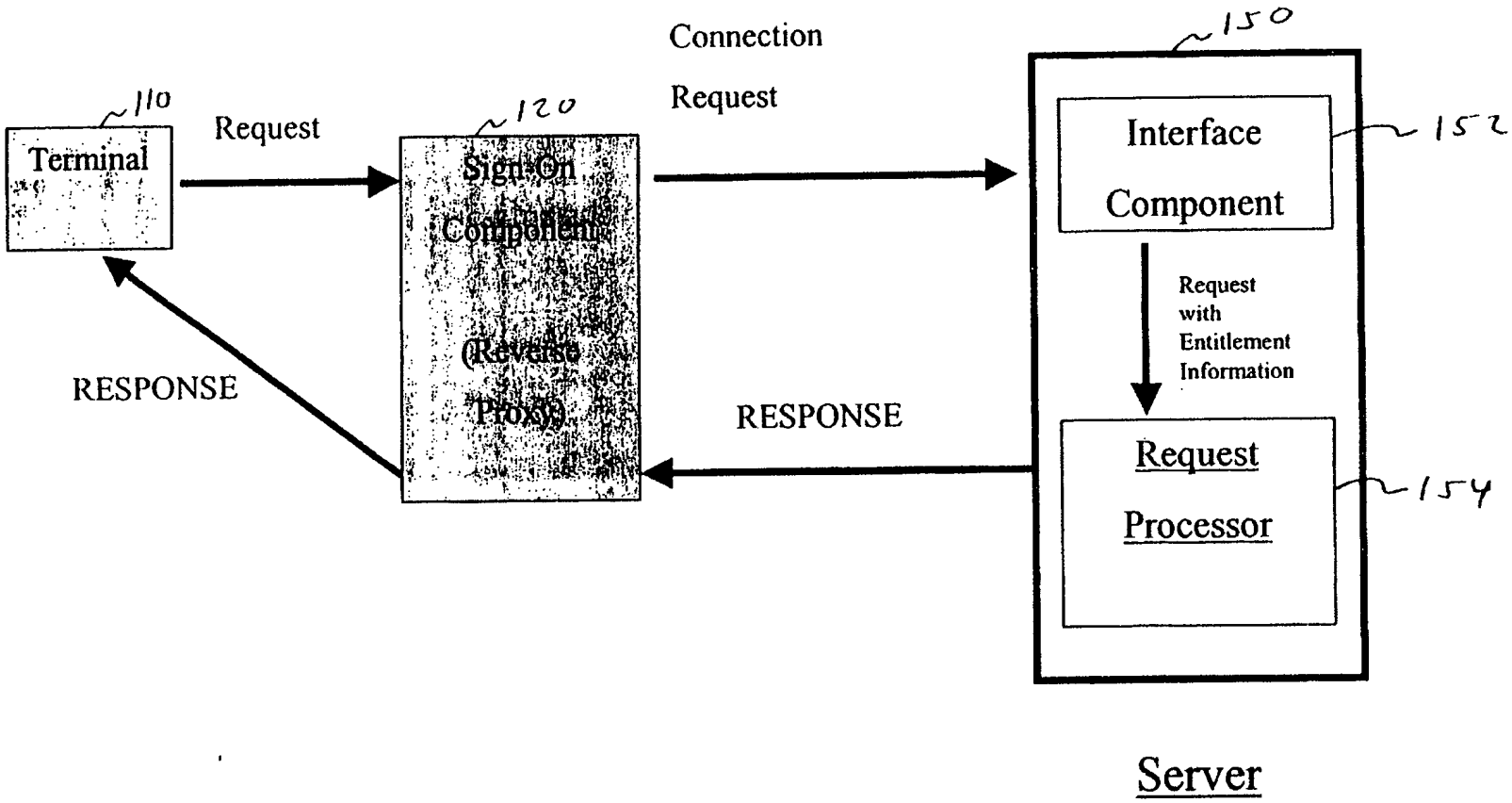
110
Terminal
Request
120
Sign-On Component (Reverse Proxy)
Connection Request
150
Interface Component
152
Request with Entitlement Information
Request Processor
154
RESPONSE
RESPONSE
Server

Fig. 1

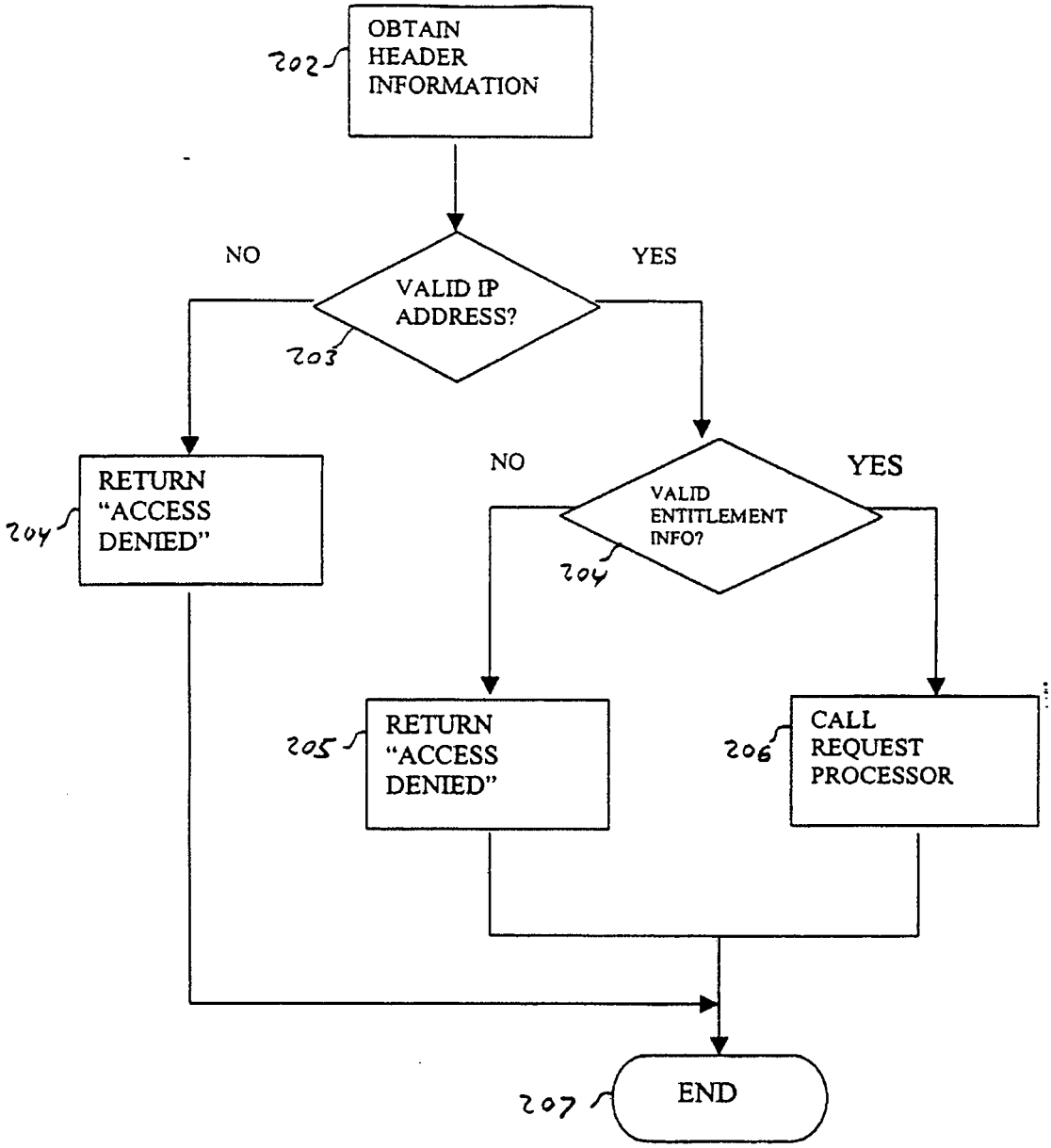
OBTAIN HEADER INFORMATION
202
VALID IP ADDRESS?
203
NO
YES
RETURN "ACCESS DENIED"
204
VALID ENTITLEMENT INFO?
204
NO
YES
RETURN "ACCESS DENIED"
205
CALL REQUEST PROCESSOR
206
END
207

Fig. 2